

# Science on the Hill: Dark matter detective work

March 13, 2017

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by Andrea Albert

Fourteen thousand feet above sea level near a volcanic peak in Mexico sits a unique astronomical observatory. Instead of peering into space with a glass lens, it uses 300 huge barrels of water. And instead of focusing light, digital sensors inside each barrel detect a ghostly blue light called Cherenkov radiation from high-energy particles zipping through the water.

At this High-Altitude Water Cherenkov Observatory, better known as HAWC, a team of astrophysicists from Los Alamos National Laboratory and their colleagues are sifting through data from those mountain-top water barrels looking for the fingerprint of one of the most elusive yet abundant quarries in the universe: Dark matter.

Dark matter is invisible, but astrophysicists observe its gravitational pull. Overwhelming evidence points to dark matter making up 85 percent of the total mass of the universe. Dark matter literally binds the universe together.

This article first appeared in the [Santa Fe New Mexican](#).

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